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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/006,668 | 12/10/2001 | Jorg Worner | 31833-173902 | 2237 |

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EXAMINER

ALLEN, DENISE S

ART UNIT PAPER NUMBER

2872

DATE MAILED: 06/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

10/006,668

Applicant(s)

WORNER ET AL.

Examiner

Denise S Allen

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1 – 20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 8, and 12 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen et al in view of Goltz et al (US 5,945,758).

Regarding claim 1, Reddersen et al teaches an optoelectronic device (Figure 12 reference 2) for detecting labels with contrast patterns (column 1 lines 40 – 55), said device comprising: a transmitter (Figure 12 reference 82) that emits light rays, said transmitted light rays scanning the contrast patterns of the labels (column 10 lines 64 – 66); a receiver (Figure 12 reference 74) that receives light rays reflected by the labels (column 10 lines 53 – 55) and generates electrical receiving signals corresponding to the received light rays (column 16 lines 38 – 46 and 61 – 65); an evaluation device (Figure 12 references 53 and 80) for evaluating the electrical receiving signals at the receiver (column 16 lines 38 – 46); and a deflection unit (Figure 11) including a polygonal mirror wheel (reference 52), and a motor (column 9 lines 34 – 35) that drives the polygonal mirror wheel, said transmitted light rays being guided over said polygonal mirror wheel to scan the contrast patterns of the labels (Figure 10b) and said received light rays being

Art Unit: 2872

guided over said polygonal mirror wheel (Figure 17), wherein said motor has a shaft (Figure 11 reference 57), a magnet (reference 55) on said shaft and a coil (reference 58), said coil being spaced from said magnet (column 9 lines 43 – 46) and said magnet operating jointly with said coil (column 9 lines 54 – 55). Reddersen et al does not teach the magnet is injected-molded.

Goltz et al teaches a magnet (Figure 1 reference 2) for use in a motor that is injected-molded (column 3 lines 6 – 21) onto a shaft (reference 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the injected-molded magnet of Goltz et al in the optoelectronic device of Reddersen et al in order to prevent axial displacement of the magnet with respect to the shaft (Goltz et al column 1 line 43 – column 2 line 4).

Regarding claim 2, Reddersen et al teaches the optoelectronic device further comprising a printed circuit board (Figure 12 reference 53) wherein said motor rests on said printed circuit board (Figures 11 and 12) and said evaluation device is integrated into the printed circuit board (column 18 lines 22 – 28).

Regarding claim 3, Reddersen et al teaches said shaft (Figure 11 reference 57) rotates inside a bearing (reference 59), said shaft being connected to said printed circuit board via said bearing (column 9 lines 47 – 48).

Regarding claim 4, Reddersen et al teaches a tube (Figure 11 the upper portion of reference 59) that projects from the top of said printed circuit board (reference 53) wherein said bearing is positioned inside said tube.

Regarding claim 5, Reddersen et al teaches said shaft (Figure 11 reference 57) has an upper portion and a lower portion, said bearing (reference 59) is provided with a bearing bore

Art Unit: 2872

(the interior surface of reference 59) that extends in an axial direction, and the lower portion of said shaft is inserted in the bearing bore.

Regarding claim 6, Reddersen et al teaches said magnet (Figure 11 reference 55) is formed onto the upper portion of said shaft (reference 57), the upper portion of said shaft extending above said bearing.

Regarding claim 7, Goltz et al teaches a groove (Figure 1 between references 6 and 7) is provided in the upper portion of the shaft (reference 3), the groove extending in a circumferential direction around the shaft, a portion of the injected-molded magnet (reference 2) extending into the groove.

Regarding claim 8, Reddersen et al teaches said shaft (Figure 11 reference 57) has a longitudinal axis (dotted lines) and the magnet (reference 55) is formed symmetrically about the longitudinal axis of said shaft, said magnet having a top surface and side surfaces where said polygonal mirror wheel (reference 52) is fitted onto the top surface (reference 54) and against the side surfaces of said magnet (column 9 lines 56 – 65).

Regarding claim 12, Reddersen et al in view of Goltz et al discloses the claimed invention except for said polygonal mirror wheel is glued onto said magnet (Reddersen et al column 21 lines 7 – 14). It would have been obvious to one of ordinary skill in the art at the time of the invention to glue the polygonal mirror wheel onto the magnet, since it has been held that making in one piece an article which has formerly been formed in multiple pieces involves only routine skill in the art. One would have been motivated to make the polygonal mirror wheel integral with the magnet by gluing in order to prevent the polygonal mirror wheel from shifting while in use.

Art Unit: 2872

Regarding claim 13, Reddersen et al teaches said magnet (Figure 11 reference 55) has a guide segment (reference 54) projecting from its top surface, said guide segment enclosing the upper portion of said shaft (reference 57).

Regarding claim 14, Reddersen et al teaches the upper portion of said shaft has a top surface and the guide segment has a top surfaces, the top surfaces of said shaft and said guide segment adjoining so that they are flush with one another (Figures 10b and 11).

Regarding claim 15, Reddersen et al teaches said polygonal mirror wheel (Figure 11 reference 52) includes a circular disk segment (circular segment on top of reference 52) and side walls (hexagonal segment around circular segment of reference 52) that project downward from edges of the circular disk segment, the circular disk segment being provided with a central bore (the interior opening of reference 52) with circular cross-section, said guide segment (reference 54) being guided through the central bore.

Regarding claim 16, Reddersen et al teaches the central bore of the circular disk segment fits flush against said guide segment (column 9 line 37).

Regarding claim 17, Reddersen et al teaches said magnet (Figure 11 reference 55) has a lower edge that is positioned a distance (column 9 lines 43 – 46) from said coil (reference 58), the lower edge of said magnet additionally being spaced from a portion of said tube (the upper portion of reference 59) that accommodates said bearing (reference 59).

Regarding claim 18, Reddersen et al teaches said magnet (Figure 11 reference 55) is provided with a central recess (interior opening of reference 55) at its lower edge that is symmetrical to the longitudinal axis (dotted lines) of said shaft (reference 57), said tube (the upper portion of reference 59) projecting into the central recess.

Art Unit: 2872

Regarding claim 19, Reddersen et al teaches a housing (Figure 12 references 66, 71, and 80) with a bottom (reference 80) and a ceiling (reference 66), wherein said transmitter (reference 82), said receiver (reference 74), said evaluation device (references 53 and 80), and said deflection unit (Figure 11) are surrounded by the housing, the combination of printed circuit board (references 53 and 80) and said motor (column 9 lines 34 – 35) resting on the housing bottom, and wherein the upper portion of said shaft (reference 57) has a top surface and the housing ceiling extends just above the top surface of said shaft (Figure 10b).

Regarding claim 20, Reddersen et al teaches said shaft (Figure 12 reference 57) is held inside said bearing (reference 59) and is displaceable in a longitudinal direction (along the dotted lines), the housing ceiling (reference 66) forming an end stop for said shaft (Figure 10b).

Claims 9 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen et al in view of Goltz et al and further in view of Loya.

Regarding claim 9, Reddersen et al in view of Goltz et al teaches an optoelectronic device as described above. Reddersen et al and Goltz et al do not teach said polygonal mirror wheel comprises an injection-molded plastic part and mirror surfaces provided on a shell surface of the plastic part for deflecting the transmitted light rays and the received light rays.

Loya teaches a polygonal mirror wheel (Figure 1 reference 24) comprising an injection-molded plastic part and mirror surfaces provided on a shell surface of the plastic part (column 4 lines 47 – 49) for deflecting the transmitted light rays and the received light rays (Figure 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the polygonal mirror wheel of Loya in the optoelectronic device of Reddersen et al in view of Goltz et al in order to reduce the cost of the polygonal mirror wheel.

Art Unit: 2872

Regarding claim 10, Reddersen et al teaches said polygonal mirror wheel (Figure 11 references 52) includes a circular disk segment (circular segment on top of reference 52) and side walls (hexagonal segment around circular segment of reference 52) that project downward from edges of the circular disk segment, said mirror surfaces being deposited on the side walls that project downward from segment edge.

Regarding claim 11, Reddersen et al teaches the circular disk segment of said polygonal mirror wheel (Figure 11 reference 52) rests on a top surface (reference 54) of said magnet (reference 55).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise S Allen whose telephone number is (703) 305-7407. The examiner can normally be reached on Monday - Friday, 8:30am - 5:00pm.

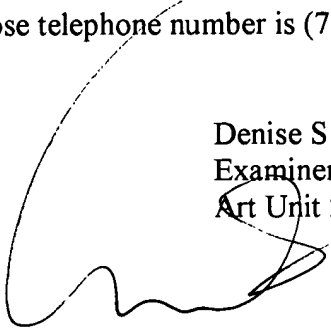
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on (703) 308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.


dsa

June 5, 2003

Denise S Allen
Examiner
Art Unit 2872


Audrey Chang
Primary Examiner
Technology Center 2800